

ABSTRACT

Apparatus and method for driving a sample, having a well-defined volume, under pressure into a chromatography column. A conventional high pressure sampling valve is replaced by a sample injector composed of a pair of injector components connected in series to a common junction. The injector components are constructed so as to provide for electroosmotic flow of a sample into the junction. At an appropriate time, a pressure pulse from a high pressure source, that can be an electrokinetic pump, connected to the common junction, drives a portion of the sample, whose size is determined by the dead volume of the common junction, into the chromatographic column for subsequent separation and analysis. The apparatus can be fabricated on a substrate for microanalytical applications.